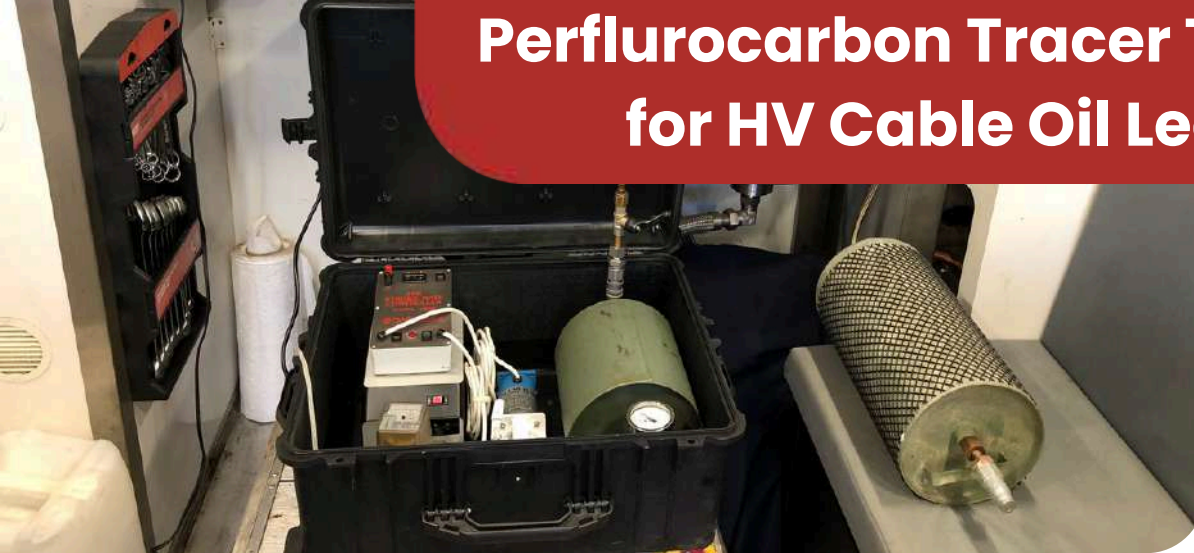


Perfluorocarbon Tracer Technology for HV Cable Oil Leak Location



THE PROJECT

AM1 Projects successfully pinpointed an oil leak on 33kV oil-filled feeder cable F1692, a feeder running through the deep cutting between Gravesend and Denton substations.

Due to severely restricted access, traditional leak detection methods and liquid nitrogen freezing were unfeasible. Recognizing the challenge, Network Rail engaged AM1 Projects to precisely locate the oil leak using advanced Perfluorocarbon Tracer (PFT) technology.

Project Started

**May
2025**

Project Ended

**June
2025**

Client

**Network
Rail Kent**

THE DELIVERABLES

AM1 Projects rapidly deployed the equipment during critical night time possessions, completing the operation in just days. We precisely pinpointed the fault in a concealed section near Gravesend Station and expertly repaired the split lead sheath, effectively halting the oil leakage.

PFT is an inert, synthetic compound that exists in the atmosphere at extremely low concentrations—a mere few parts per quadrillion (one part in 1,000,000,000,000,000 or a thousand million million).



CHALLENGES & SOLUTIONS

AM1 Projects circulated PFT through the oil ducts of the mile-and-a-half-long feeder cable at a higher concentration to enhance detection accuracy. The PFT gradually permeated into the atmosphere from the leaking feeder, allowing us to utilize highly sophisticated air sampling and detection equipment to precisely locate the tracer and pinpoint the leak.

AM1 Projects swiftly carried out a temporary repair before executing a comprehensive lead sleeve repair during a carefully planned possession.

